

Date: Tuesday, 12/5/2006 8:16:27 AM  
 User: Kim Johnston

## Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: TOW RING
Job Number	: 29791		
Estimate Number	: 10396		
P.O. Number	: <u>N/A</u>	Part Number	: D2968041
This Issue	: 12/5/2006	S.O. No.	: <u>N/A</u>
Prsht Rev.	: NC	Drawing Number	: D2968
First Issue	: <u>N/A</u>	Project Number	: N/A
Previous Run	: 28267	Drawing Revision	: B1
		Material	: <u>N/A</u>
Written By	: <u>[Signature]</u>	Due Date	: 12/23/2006
Checked & Approved By	: <u>[Signature] 061205</u>	Qty:	<u>46</u> Um: Each
Comment	: Est:C 03.04.11 Reformat; Incorporated D2968-1/-5 KJ/RF		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	29791A	STEM
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✓ Comment: Sub-Component STEM

D2968-1 B B29791A → 46 ~~D29791A~~ Cpl 06.12.14 (46)

2.0	29791B	RING
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✓ Comment: Sub-Component RING

D2968-5 B 29353B → 41 ~~B29791~~ → 5 Cpl 06.12.14 (46)

3.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
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Comment: LARGE FABRICATION RESOURCE 1

Weld D2968-1 &amp; D2968-5 as per Dwg D2968 &amp; QSI 004 using 4130 welding rod Identify as D2968-041

Batch: M15684 Cpl 06.12.14

4.0	QC9	VISUAL WELDING INSPECTION
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Comment: VISUAL WELDING INSPECTION

12/06/12/14 (46)

5.0	QC5	INSPECT WORK TO CURRENT STEP
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Comment: INSPECT WORK TO CURRENT STEP

12/06/12/14 (46)

6.0	PG	PURCHASING
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Comment: PURCHASING

Issue P/O: 2760CX06112121

(46)

Description: D2968-041 to heat treat to ultimate tensile strength

125ksi as per Dwg D2968

Conformity sheet required

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: PD Date: 07/01/17

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 12/5/2006 8:16:27 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TOW RING

Job Number: 29791

Part Number: D2968041

Job Number:



Seq. #:

Machine Or Operation:

Description:

Issue P/O: 2761  
Cad Plate per QQ-P-416F Class I Type II  
Conformity sheet required

C206112121 (46)

7.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage  
Ensure certificate of conformity is attached

07/01/11 (46)

8.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT CAD PLATE

07-01-15 (46)

9.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.2) as per QSI 005 4.3  
\*\*\*DO NOT POWDER COAT THREADS\*\*\*

102391

07/01/16 (46)

10.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT

07/01/16

11.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock  
Location: ST 113

07/01/16 (46)

12.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

07/01/17 (46)

Job Completion



07-01-17

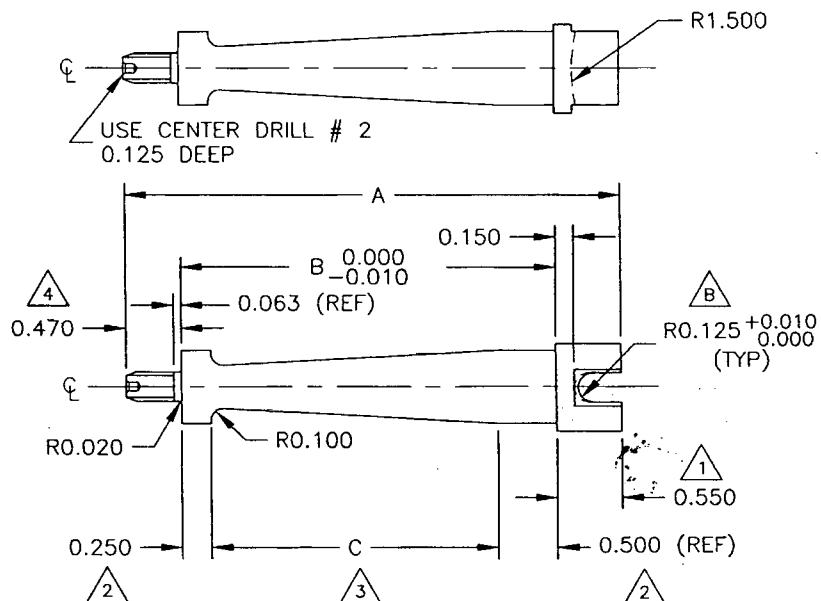
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



PART NUMBER	A	B	C
D2968-1	5.040	4.020	3.270
D2968-3	4.200	3.180	2.430

D2968-1/-3 STEM

D2968-1 AND D2968-3 STEM:

MATERIAL: AISI 4130

△ Ø0.750 O.D.

△ Ø0.625 O.D.

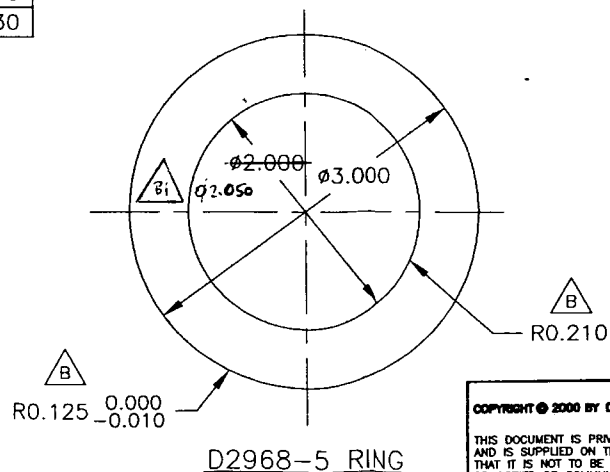
△ MACHINE UNIFORM TAPER FROM Ø0.363 O.D. TO Ø0.625 O.D.

△ 1/4-28 UNF THREAD WITH 0.063 GRIP  
MACHINE ALL INSIDE EDGES WITH A 0.010 RADIUS  
UNLESS OTHERWISE INDICATED  
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

D2968-5 RING:

MATERIAL AISI 4130

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



RELEASED

UNDER REVIEW

USE 2968-1 STEM  
FOR -041  
-USE 2968-3 STEM  
FOR -043

D2968-041 AND D2968-043 TOW RING:

WELD PER QSI 004 ON ALL EDGES BETWEEN STEM AND RING  
HEAT TREAT TO MIN ULTIMATE TENSILE STRENGTH OF 125 KSI

FINISH: CAD PLATE ENTIRE ASSEMBLY PER

QQ-P-416F CLASS I TYPE II

POWDER COAT WHITE (REF 4.3.5.2) PER DART

QSI 005 4.3 (EXCEPT THREADS)

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

B	00.05.31	R0.125 AND R0.210 WERE 0.060 x 45°
A	00.03.07	NEW ISSUE
DESIGN	DRAWN BY	DART DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D2968
DATE	TITLE	SCALE
00.05.31	TOW RING	1:1

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SHOP COPY  
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SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
29791

**DOMPLEX**

Anjou (Québec) H1J 1B6

Tél.: 514-355-7867

Fax: 514-355-8750

**CERTIFICAT DE CONFORMITÉ  
CERTIFICATE OF COMPLIANCE**

#13051

DART Aerospace LTD  
Client / Customer

PO 2761  
Votre # de commande / Your purchase order #

D0768-041 B29771  
# de la pièce / part #

101866  
Notre # de bon de livraison / Our packing slip #

Inspecteur / Inspector

Reneault

Date, équipe / Date, shift

JAN 08 2007

Placage / Plating

QQP-416 F CLASS 1 T-16 II

Quantité totale / Total quantity

46

Quantité inspectée / Inspected quantity

46

Adhésion / Adhesion

Épaisseur / Thickness

L.C.D.

H.C.D.

Moy. / aver.

0.0005

Coulisses, taches / Leach, spots

NO

Rugosité / Roughness

NO

Quantité approuvée / Approved quantity

46

Quantité rejetée / Rejected quantity

—

Commentaires / Comments

Nous certifions que les pièces énumérées ci-dessus ont été faites en conformité avec vos dessins et spécifications et rencontrent les exigences contenues dans ces dessins et/ou spécifications.

We hereby certify that the parts listed above have been made in accordance with your drawings and specifications and are correct to the requirements contained in those drawings and/or specifications.

Signé au nom de  
Signed on behalf of

**MANCO  
DOMPLEX**



**VAC AERO**  
INTERNATIONAL INC.

**RELEASE NOTE**

GST No. : R105468102

OAK 82767-1



HEAD OFFICE  
1371 SPEERS ROAD, OAKVILLE, ONTARIO  
CANADA L6L 2X5  
TEL: (905) 827-4171 FAX: (905) 827-7489



2009 WYECROFT ROAD, UNIT B  
OAKVILLE, ONTARIO  
CANADA L6L 6J4  
TEL: (905) 827-7377 FAX: (905) 827-1380



QUEBEC DIVISION  
7450 RUE VÉRITÉ STREET, ST. LAURENT, QUÉBEC  
CANADA H4S 1C5  
TEL: (514) 334-4240 FAX: (514) 334-6269

01/04/2007

MM / DD / YYYY

PAGE : 1

1DAR01

BILL TO: DART AEROSPACE LTD.  
1270 ABERDEEN ST.  
HAWKESBURY, ON

SHIP TO: MANCO DOMPLEX  
4660 HICKMORE  
ST-LAURENT, QC

K6A 1K7

H4T 1K2

DATE SHIPPED	SHIP VIA	F.O.B.
01/04/2007		ORIGIN
CUSTOMER P/O No.	JOB No.	TERMS
PO00002760		COD

PART No.	DESCRIPTION	UOM	QTY ORD	QTY SHPD	TEST RESULTS
D2968-041	B29791 TOW RING	EA	46	46	

Process Specifications: Procedure: 4047  
HEAT TREATED TO 125 KSI MIN.  
100% HARDNESS TESTED PER ASSTM E-18, HRC 27-32.5  
MATERIAL: 4130

**100% HARDNESS TESTED**

46 pcs → 29/30 HRC

I hereby certify that the material covered by this release note has been inspected and tested and conforms to all specifications relevant thereto in accordance with the conditions of the contract / or purchase order.

ON BEHALF OF VAC AERO INTERNATIONAL INC.

Authorized O.C. Inspector



VACUUM BRAZING · HEAT TREATING · SPECIAL PROCESSING · FURNACE EQUIPMENT  
TURBINE COMPONENT OVERHAUL · PLASMA AND OTHER COATINGS



HEAT  
TREATING